

REMARKS

The present application includes claims 1-18. The Examiner has required restriction to one of the inventions of claims 1-10 and 18 and claims 11-17, and the Applicants have elected the invention of claims 1-10 and 18 and withdrawn claims 11-17. Pursuant to the Examiner's instructions, claims 11-17 have now been canceled by this Amendment. Claims 1-10 and 18 stand rejected by the Examiner. Specifically, the Examiner has maintained the rejection of claims 1-9 under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,476,580 ("Thorn"), the rejection of claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Thorn in view of U.S. Pat. No. 5,718,746 ("Nagasawa"), and the rejection of claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Thorn.

The applicant respectfully submits that Claims 1- 10 and 18 are patentable for the reasons provided below.

35 U.S.C. § 102 (Novelty)

The Examiner maintains the rejection of claims 1-9 as being anticipated by Thorn and as being obvious over Thorn. Thorn teaches a composition and process for preparing a non-conductive substrate for electroplating. The composition comprises 0.1 to 20% by weight carbon (e.g. graphite or carbon black) having a mean particle size within the range of 0.05 to 50 microns; optionally, 0.01 to 10% by weight of a water soluble or dispersible binding agent for binding to the carbon particles; optionally, an effective amount of an anionic dispersing agent for dispersing the bound carbon particles; optionally, an amount of a surfactant that is effective for wetting the through hole; a pH within the range of 4-14; and an aqueous dispersing medium. Thorn at Abstract.

Thorn does not disclose all the limitations of claim 1 and thus does not anticipate claims 1-9. Thorn does not teach, nor suggest, reducing the alkalinity of the dispersion “by an amount effective to reduce the susceptibility of the carbon dispersion to a viscosity increase,” as recited in claim 1. Rather, Example 4 of Thorn discloses a dispersion having a viscosity of 145 cps prior adding potassium bicarbonate to the dispersion. Thorn at 15:40-16:5. Thorn simply does not teach or suggest reducing the alkalinity of the dispersion “by an amount effective to reduce the susceptibility of the carbon dispersion to a viscosity increase.”

The Examiner argues that Thorn teaches a “composition that fully embraces the composition of the instant claims and therefore a rejection asserting the inherency of the function, property or characteristic of the composition is proper.” *See* February 7, 2006 Office Action at p. 4. According to the MPEP, “[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” MPEP at 2112 (citations omitted). However, the Examiner does not provide any explanation as to why adding potassium bicarbonate to a dispersion as described in Thorn inherently reduces the alkalinity of the dispersion “by an amount effective to reduce the susceptibility of the carbon dispersion to a viscosity increase,” as recited in claim 1. Therefore, the Examiner’s unsupported argument of inherency is simply a conclusory statement, and thus Thorn does not teach, either explicitly or inherently, reducing the alkalinity of the dispersion “by an amount effective to reduce the susceptibility of the carbon dispersion to a viscosity increase” as recited in claim 1.

Thus, Thorn does not teach all the limitations of Claim 1, and therefore Thorn does not anticipate claim 1. Likewise, claim 1 is not obvious over Thorn. Since Claims 2-9 are dependent

on Claim 1, they also are not anticipated by Thorn or obvious over Thorn. The Applicants therefore respectfully submit that claims 1-9 are novel.

35 U.S.C. § 103 (Non-obviousness)

The Examiner maintains the rejection of claim 10 as being obvious over Thorn in view of Nagasawa. Nagasawa discloses a process for producing aqueous pigment ink which forms a black matrix having high optical density, flatness of a film and low conductivity, and imparts high resolution power to a color filter. The process comprises the steps of: finely dispersing a carbon black having an oil absorptivity of not more than 100 ml/100 g in an aqueous medium; and oxidizing the carbon black by using a hypohalite. Nagasawa at Abstract.

The Applicants respectfully submit that the combination of Thorn and Nagasawa does not disclose all the limitations of claim 10 and therefore does not render claim 10 obvious. As discussed above, Thorn does not teach or suggest reducing the alkalinity of the dispersion “by an amount effective to reduce the susceptibility of the carbon dispersion to a viscosity increase,” as recited in claim 1. Furthermore, Nagasawa does not teach this limitation either.

Additionally, neither Nagasawa, nor Thorn, teaches, or suggests, a “viscosity-unstable aqueous dispersion of carbon compris[ing] ammonia in a concentration sufficient to make it susceptible to a viscosity increase when exposed to the atmosphere” or “reducing the concentration of ammonia in the viscosity-unstable aqueous dispersion of carbon” as recited in claim 10. While Nagasawa discloses “[a]s a pH controlling agent, there can be used aqueous ammonia,” Nagasawa does not explicitly or inherently teach ammonia in a viscosity-unstable aqueous dispersion of carbon a concentration sufficient to make it susceptible to a viscosity increase when exposed to the atmosphere. *See* Nagasawa at 6:42-43. Nor does Nagasawa explicitly or inherently teach reducing the concentration of ammonia in the dispersion of carbon as part of reducing alkalinity. The

combination of Thorn and Nagasawa simply does not teach all the limitations of claim 10, and thus the Applicants respectfully submit that claim 10 is not obvious over Thorn in view of Nagasawa.

The Examiner argues that Nagasawa teaches a “dispersion comprising ammonia that fully embraces the composition of claim 10 and it would be obvious to perform the method of Thorn using the composition of Nagasawa for the motivation of to allow the dispersion to be used over a long period of time as shown by Nagasawa.” *See* February 7, 2006 Office Action at p. 4. Again, Nagasawa only discloses the use of aqueous ammonia. Furthermore, Thorn, as discussed above does not teach, inherently, or explicitly, a viscosity-unstable aqueous dispersion of carbon comprising ammonia in a concentration sufficient to make it susceptible to a viscosity increase when exposed to the atmosphere or reducing alkalinity by reducing the concentration of ammonia in a viscosity-unstable aqueous dispersion of ammonia. Therefore, the combination of the aqueous ammonia from Nagasawa with the dispersion of Thorn simply does not teach a “viscosity-unstable aqueous dispersion of carbon comprise[ing] ammonia in a concentration sufficient to make it susceptible to a viscosity increase when exposed to the atmosphere” or reducing alkalinity by “reducing the concentration of ammonia in the viscosity-unstable aqueous dispersion of carbon” as recited in claim 10. Accordingly, the combination of Thorn and Nagasawa does not teach all the limitations of claim 10 and thus does not render claim 10 obvious.

The Examiner maintains the rejection of claim 18 as being unpatentable under 35 U.S.C. § 103(a) over Thorn. The Applicants respectfully submit that claim 18 is not obvious over Thorn. Claim 18 recites a dispersion of carbon having “a viscosity of less than about 20 cps and a conductivity of less than about 3 mS.” Thorn discloses an aqueous solution having a viscosity in the range of 25-800 cps and does not at all teach or disclose the solution having a conductivity of less than about 3 mS, or any specific conductivity for that matter. *See* Thorn at 7:39-45. Therefore,

Thorn does not teach, nor suggest, all the limitations of claim 18, and the Examiner has acknowledged as much. *See* February 7, 2006 Office Action at p. 4. The Examiner argues, however, that “one of ordinary skill in the art at the time the invention was made would have expected that the conductivity of the Thorn composition would inherently be the same as claimed” and that “it would have been obvious to a person of ordinary skill in the art to reduce the viscosity of the Thorn composition to less than 20 cps for the purpose of improving the flow of the dispersion.” *See* September 27, 2005 Office Action at p. 7; February 7, 2006 Office Action at p. 4.

The Examiner provides no support for these assertions of obviousness. The Applicants respectfully submit that a viscosity of less than 20 cps is not obvious for improving the flow of dispersion in view of Thorn when Thorn specifically discloses a dispersion having a viscosity of 25-800 cps, and not a viscosity of less than 20 to 800 cps. Furthermore, according to the MPEP, “[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” MPEP at 2112 (citations omitted). However, the Examiner does not provide any explanation as to why the conductivity of the composition of the Thorn dispersion would inherently be less than about 3mS. Therefore, the Examiner’s unsupported argument of inherency is simply a conclusory statement, and thus Thorn does not teach, either explicitly or inherently, all the limitations of claim 18.

Also, to the extent that the Examiner is making an obviousness rejection of claim 18 based on Official Notice of the subject of the statements – that is, the Examiner is asserting Official Notice that one of ordinary skill in the art at the time the invention was made would have expected that the conductivity of the Thorn composition would inherently be the same as claimed and that it would have been obvious to a person of ordinary skill in the art to reduce the viscosity of the Thorn

composition to less than 20 cps for the purpose of improving the flow of the dispersion -- the Applicants respectfully traverse the Examiner's assertion and respectfully request the Examiner reconsider the assertion of Official Notice and provide to Applicants a prior art reference supporting the Examiner's assertion of Official Notice.

Conclusion

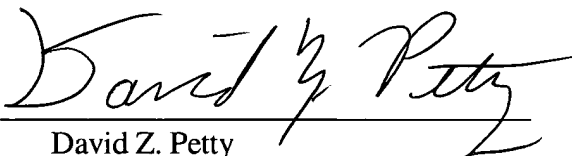
The Applicants respectfully submit that they have shown that this application satisfies all the legal requirements pointed out by the Examiner. Therefore, the Examiner is respectfully requested to prepare a Notice of Allowability allowing all the pending Claims 1-10 and 18.

Respectfully submitted,

Date: _____

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By: _____



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